# **BOLT HOLD**

## Cold Weather Installation

Application Note **AN36** 21APR2020

**Keywords**: grout, epoxy, anchor cement, low temperature, rain, EPX2, EPX3, AGe2

This application note addresses installation procedures when ambient temperatures drop below  $50^{\circ}$ F or when it is raining. (There are no issues with the *use* of the anchors in any temperature or in rain once the grout has cured.)

### EPX2

The curing of the EPX2 (or AGe2) grout requires a minimum ambient temperature of 50°F. The EPX2 powder reacts with the mixed water to start the curing process. If the water is too cold, the process will not start, or it will be very slow. Once the process starts, it generates its own heat at which point curing will proceed on its own.

- At temperatures 35°F-50°F mix warm water with the EPX2 powder.
- At temperatures lower than 35°F, use our EPX3 (see next column on this page).
  - 1. Do not apply grout of any type to frozen *ground*, as the ice may prevent the grout from flowing into the asphalt crevices and bonding with the asphalt.
  - 2. Preheat the EPX2 and the water to  $70^{\circ}$ F or higher.
  - 3. Use a small tent with heat lamps.
  - 4. Use a forced air heat gun to warm the hole and its immediate surround-ing area.

Bear in mind that the alternative to using asphalt anchors is to cut out a large patch of asphalt and pour concrete. That too is not a viable option in freezing temperatures.

#### EPX2 in RAIN

While the grout is water-proof once it hardens, rain can dilute the grout mixture when poured into the hole. This can be caused by standing water in the hole, or by water seeping into the hole from the rain or from a high water-table in the area. If unable to dry the hole, use EPX3 instead.

- 1. If it is raining, either wait it out or cover the area above the hole with a tent. Then...
- 2. Push the water out of the hole using the drill bit or the anchor, and blow out the rest of the water with compressed air.
- 3. If the water table is high and the water keeps rising in the hole, try to push in small gravel aggregate to the bottom of the hole (below the end of the anchor). That may slow the rise of the water enough to allow the grout to be poured and cure.

### EPX3

The use of this epoxy makes its application in inclement weather much easier and straight forward. For full instructions please use the <u>EPX3 datasheet</u>. Here are some pointers:

- 1. You can apply the EPX3 into holes full of water.
- 2. You can apply the EPX3 grout in rain.
- 3. You can apply the EPX3 grout at ambient temperatures as low as 14°F.
- You need to pre-heat the grout to 70°F before using it. If the EPX3 is used cold (below 50°F) it will take much longer to cure, and at subfreezing temperatures the curing will not even start.
- 5. The curing time vs. grout temperature is detailed in the <u>EPX3 datasheet</u>.



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